

ABSTRACT OF THE DISCLOSURE

A plasma generation method in a toroidal plasma generator that includes a gas passage having a gas entrance and a gas outlet and forming a circuitous path and a coil wound around a part of the gas passage includes the steps of supplying a mixed gas of an Ar gas and an  $\text{NF}_3$  gas containing at least 5% of  $\text{NF}_3$  and igniting plasma by driving the coil with a high-frequency power, wherein the plasma ignition step is conducted under a total pressure of 6.65 - 66.5Pa.